Application of the CMMI℠ to Plan and Control Life Cycle Costs

Dr. Mary Anne Herndon

Science Applications International Corporation (SAIC)

November, 2003

®CMM, Capability Maturity Model, and Capability Maturity Modeling are registered in the U.S. Patent and Trademark Office.
℠ CMMI is a service mark of Carnegie Mellon University.
℠ SCAMPI is a service mark of Carnegie Mellon University.

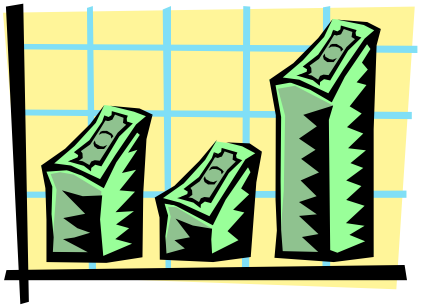
FY 08 Introduction

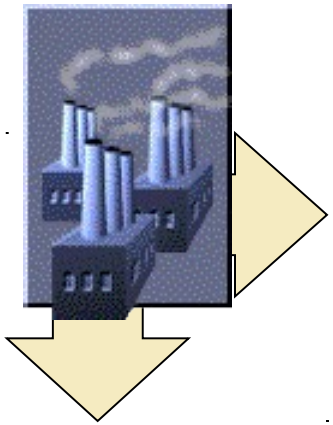
Your Competition

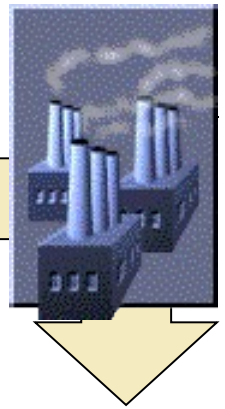
Your Life Cycle Cost Planners

1. Agility to successfully respond to rapidly changing business environments and customer priorities is critical to long term survivability.
2. Infrastructure support is expected to provide more services while minimizing costs over the life cycle of technology programs.
3. Planning and controlling life cycle costs needs to focus on implementing capable/mature processes for the infrastructure support services as well as the technology programs.
4. Application of the CMMI model practices and SCAMPI℠ appraisal methods provide a common framework to achieve capability and maturity in both the technology programs and infrastructure support functions.

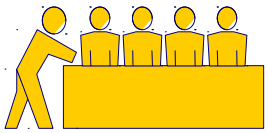
Challenges in Planning & Controlling Life Cycle Costs



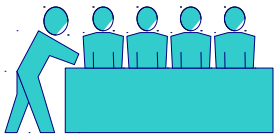




Infrastructure Support



SE/SI/SW Technology



Contract Administration

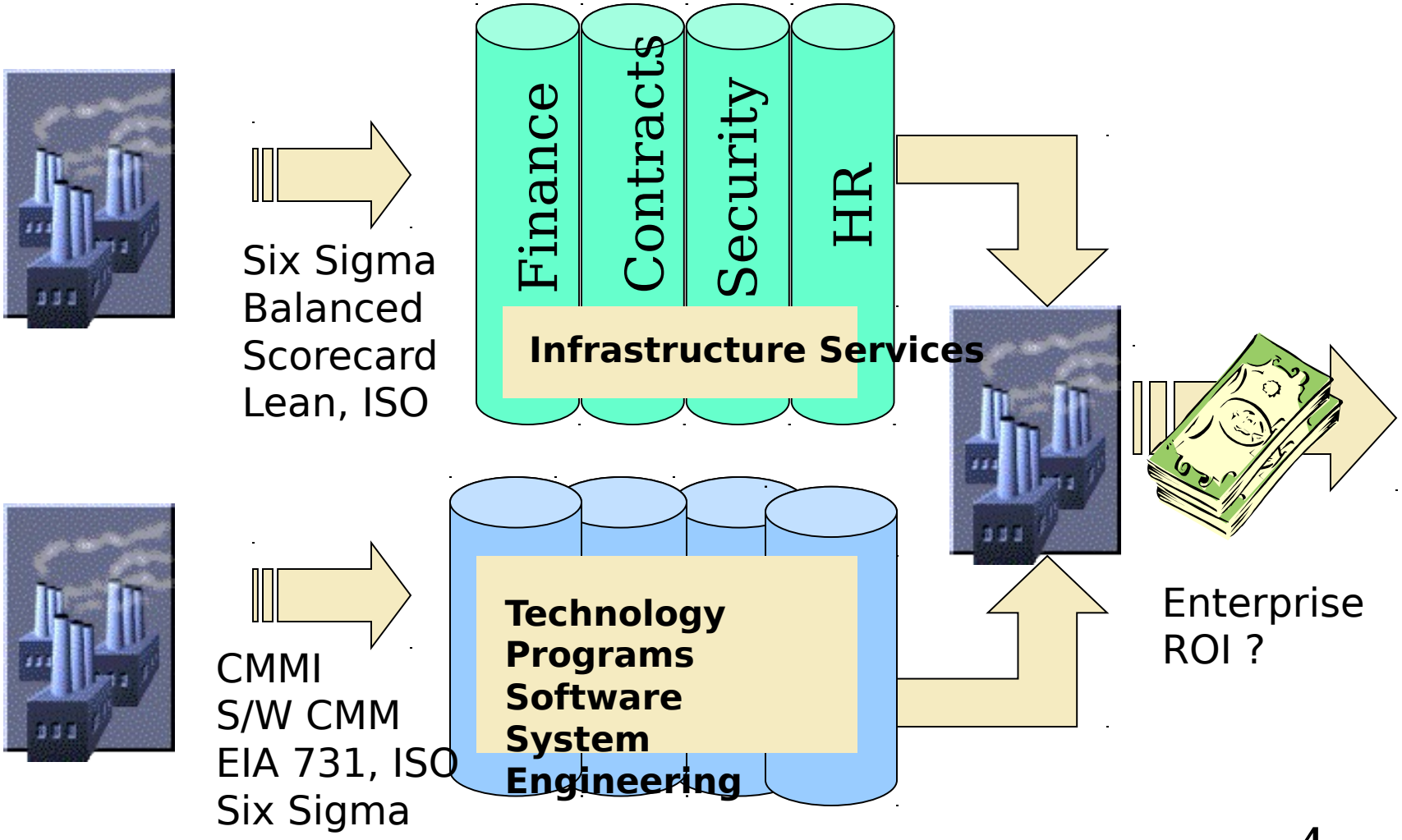
1. Finance
2. Contracts
3. HR
4. Security

Service/Product Implementation

1. Culture Sustainment
2. Dynamic Service Levels
3. Emerging Technologies
4. Changes in Competition

Perpetuating Stovepipes: Organizational Process Improvement

- Parallel Strategies -



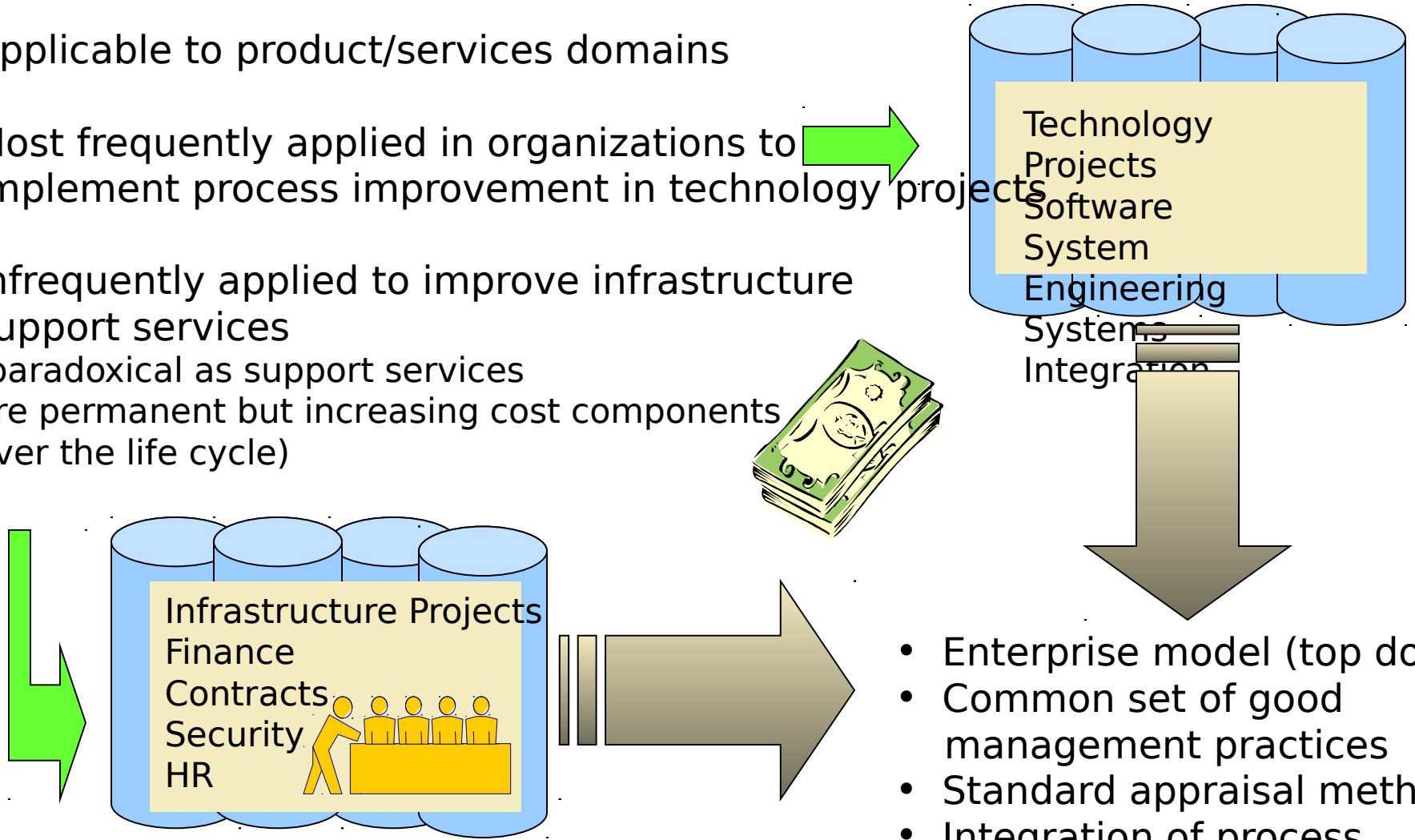
Organizational Process Improvement Via CMMI

CMMI Model Practices are:

Applicable to product/services domains

Most frequently applied in organizations to implement process improvement in technology projects

Infrequently applied to improve infrastructure support services
(paradoxical as support services are permanent but increasing cost components over the life cycle)

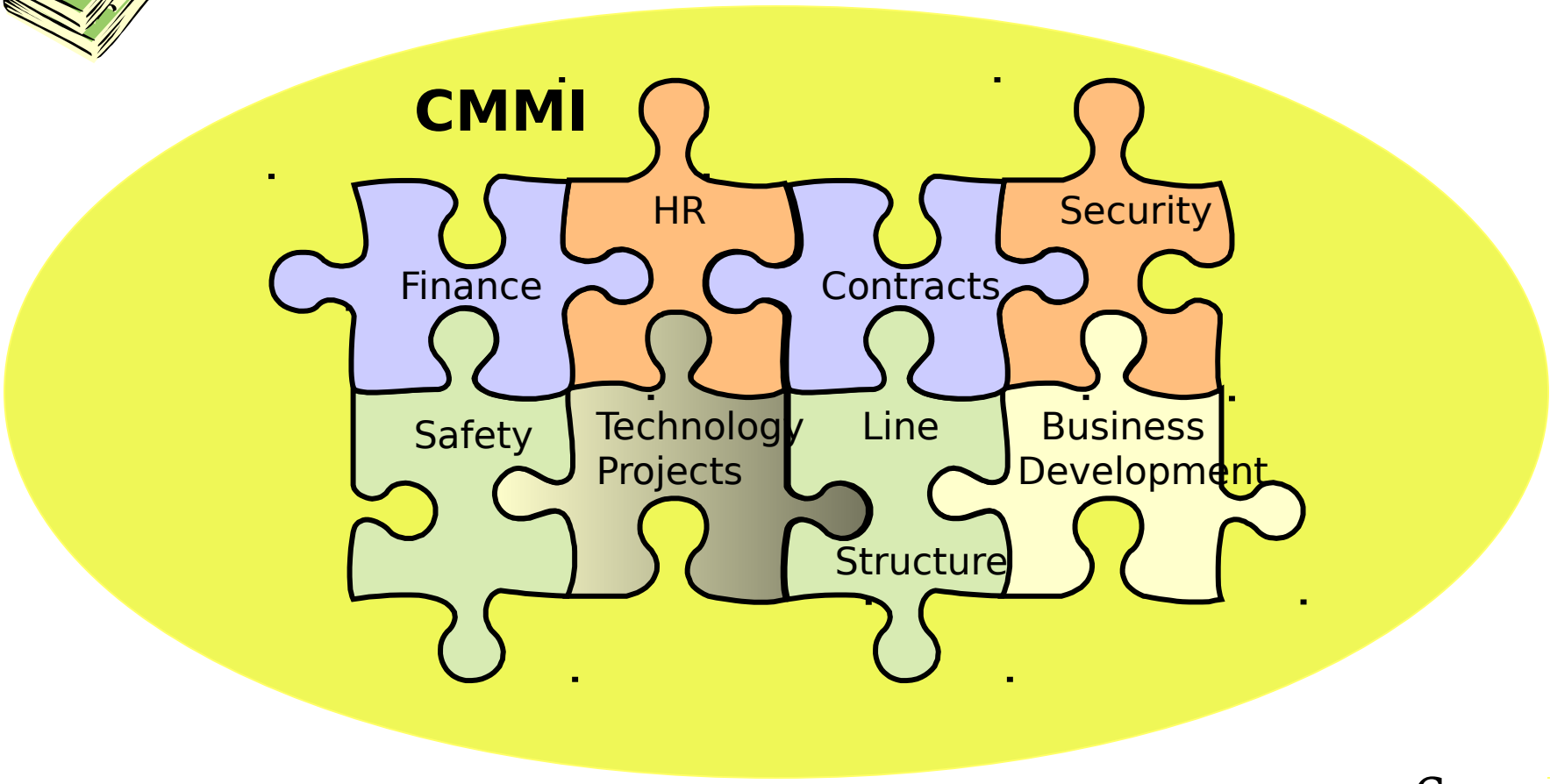


- Enterprise model (top dow
- Common set of good management practices
- Standard appraisal method
- Integration of process improvement initiatives

Process Improvement Investment Strategy

"Applying the CMMI Across the Enterprise"

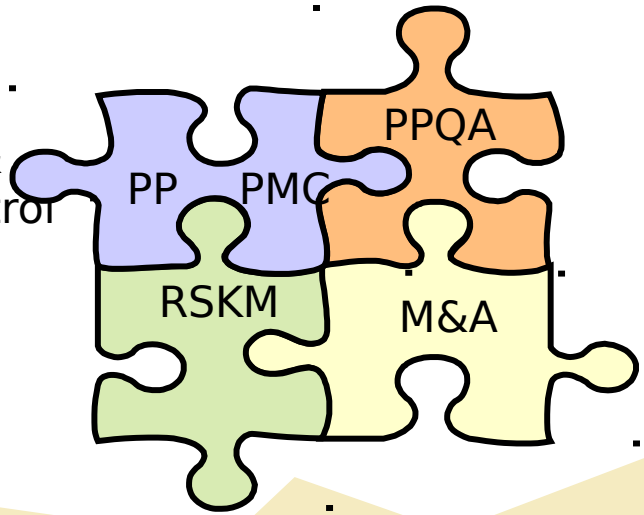
Implementing CMMI model practices across both infrastructure suppo
technology domains integrates process improvement into the Enterp
using a common set of good management practices and appraisal m



CMMI Model Applications to Planning & Controlling Life Cycle Cos

Project Planning &
Monitoring & Control

Risk Management

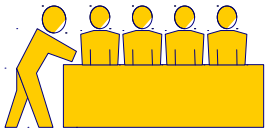


Process & Product
Quality Assurance

Measurement & Analysis

CMMI Practices Are Applicable to Service Organizations

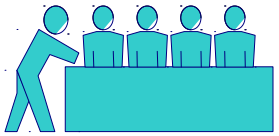
Infrastructure Support Services



Contract Administration

1. Finance
2. Contracts
3. HR
4. Security

SE/SI/SW Technology



Service/Product Implementation

1. Sustainment
2. Dynamic Service levels
3. Emerging Technologies
4. Changes in Competition

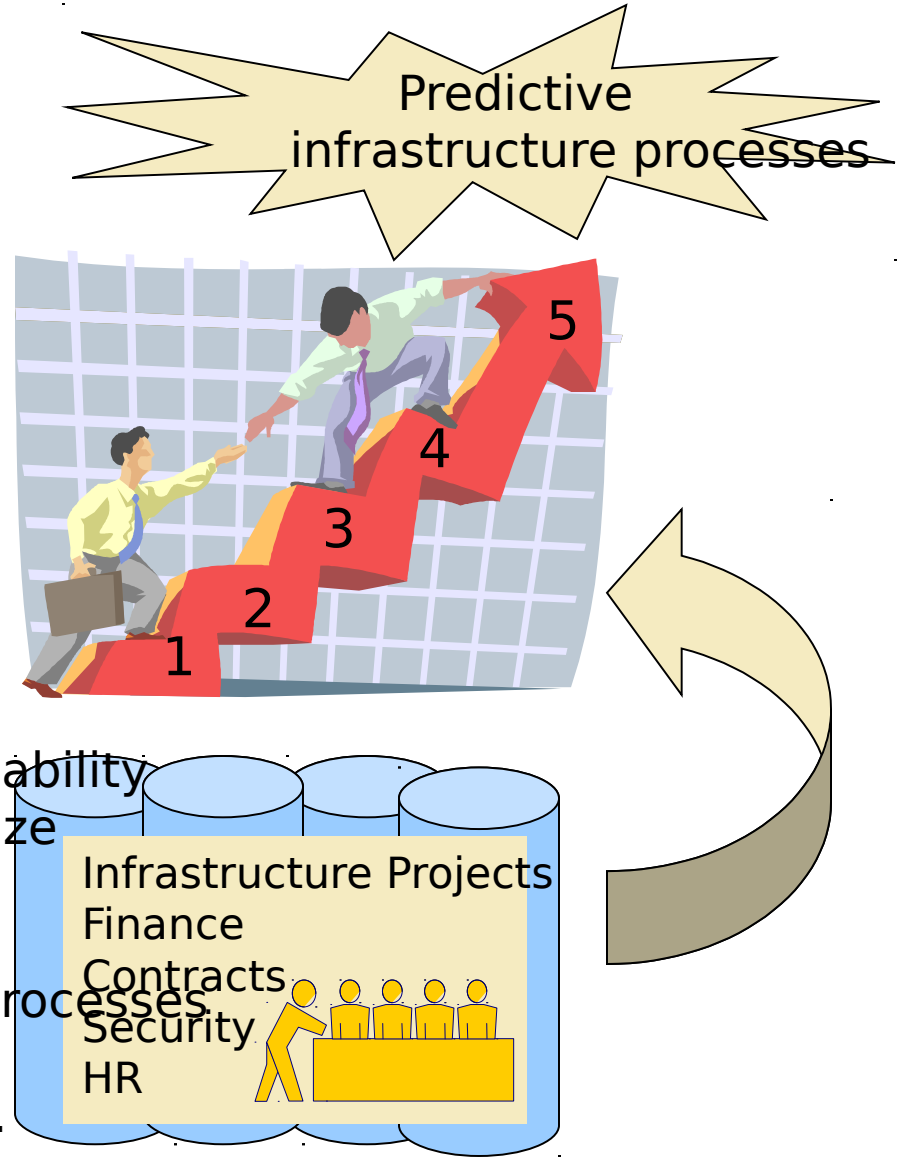
Implementing Planning and Controlling Future Life Cycle Costs

- Focus on building process improvement equity in infrastructure support services & technology projects using CMMI and SCAMPI.

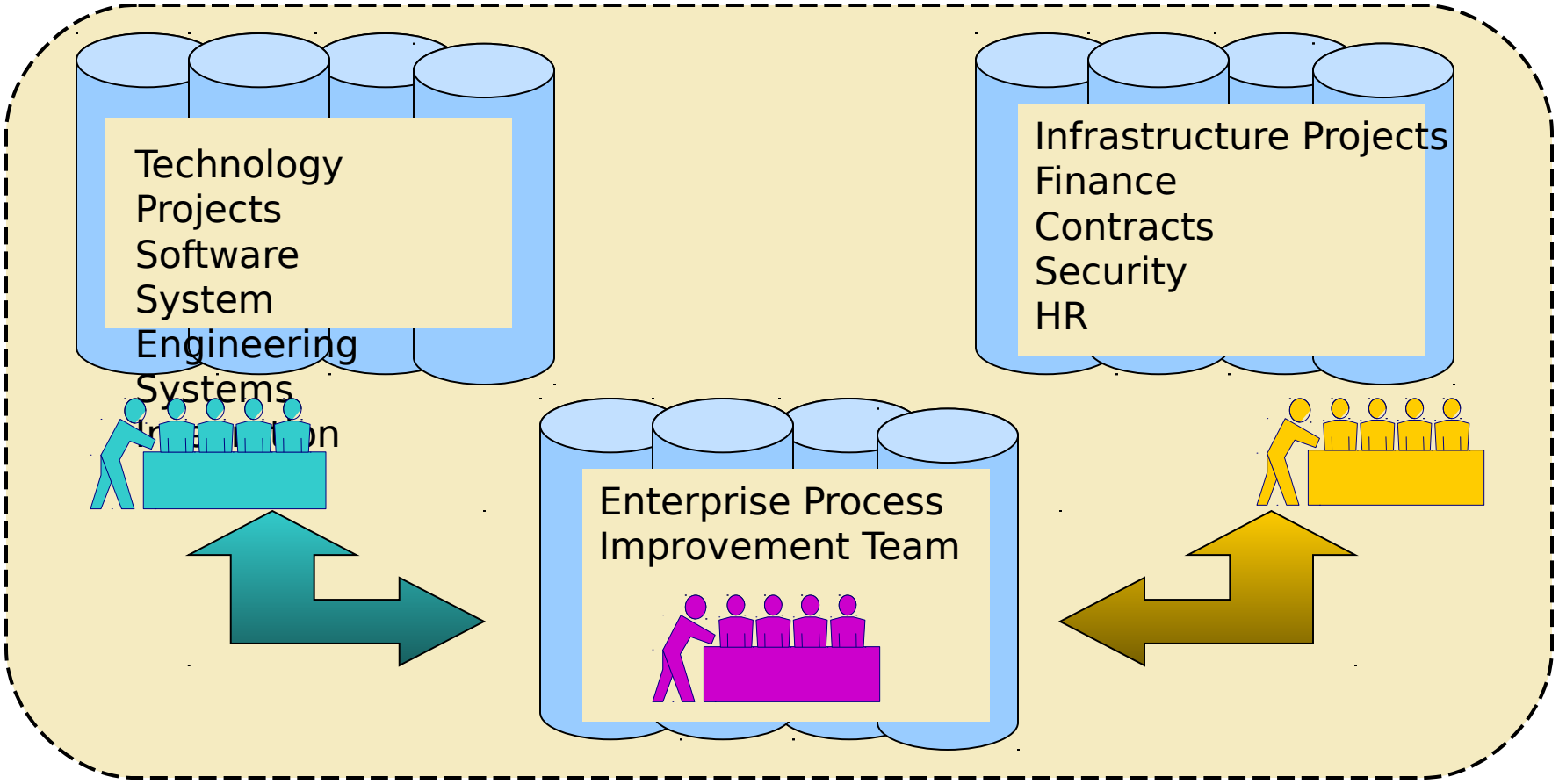
- Technology projects are transient – infrastructure support services are not.

- Set process performance goals for infrastructure support services. Use practices in higher capability PAs to implement processes to stabilize and predict cost performance.

- Predictive infrastructure services processes are important tools in planning and controlling future life cycle costs.



Integrating Process Improvement Initiatives



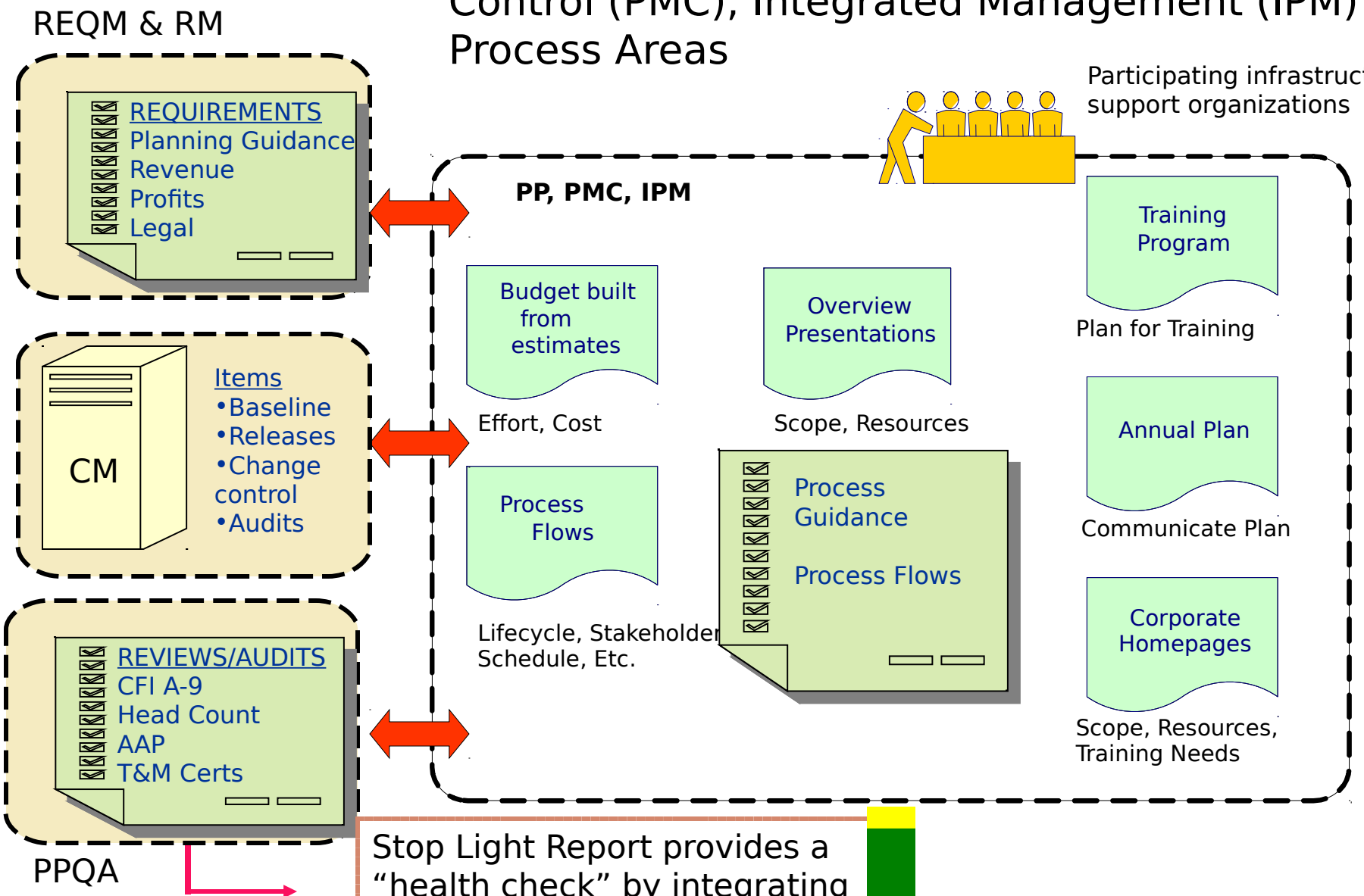
- Prioritize and select “projects” based upon business goals (e.g. minimizing and predicting support infrastructure life cycle costs).
- Define charter for Enterprise Process Improvement team and select members.
- Develop and staff CMMI implementation project.
- Assess process improvement progress (SCAMPI).

Implementation Tips in Applying CMMI Practices to Infrastructure S

- Recognize that infrastructure services are PROJECTS with: requirements, schedules, resources, measurements and risks and need appropriate levels of QA, CM, training and stakeholder involvement.
- Plan infrastructure process improvement projects in parallel with technology projects.
- Provide CMMI training to infrastructure support teams.
- Include experts in infrastructure support functions on SCAMPI teams

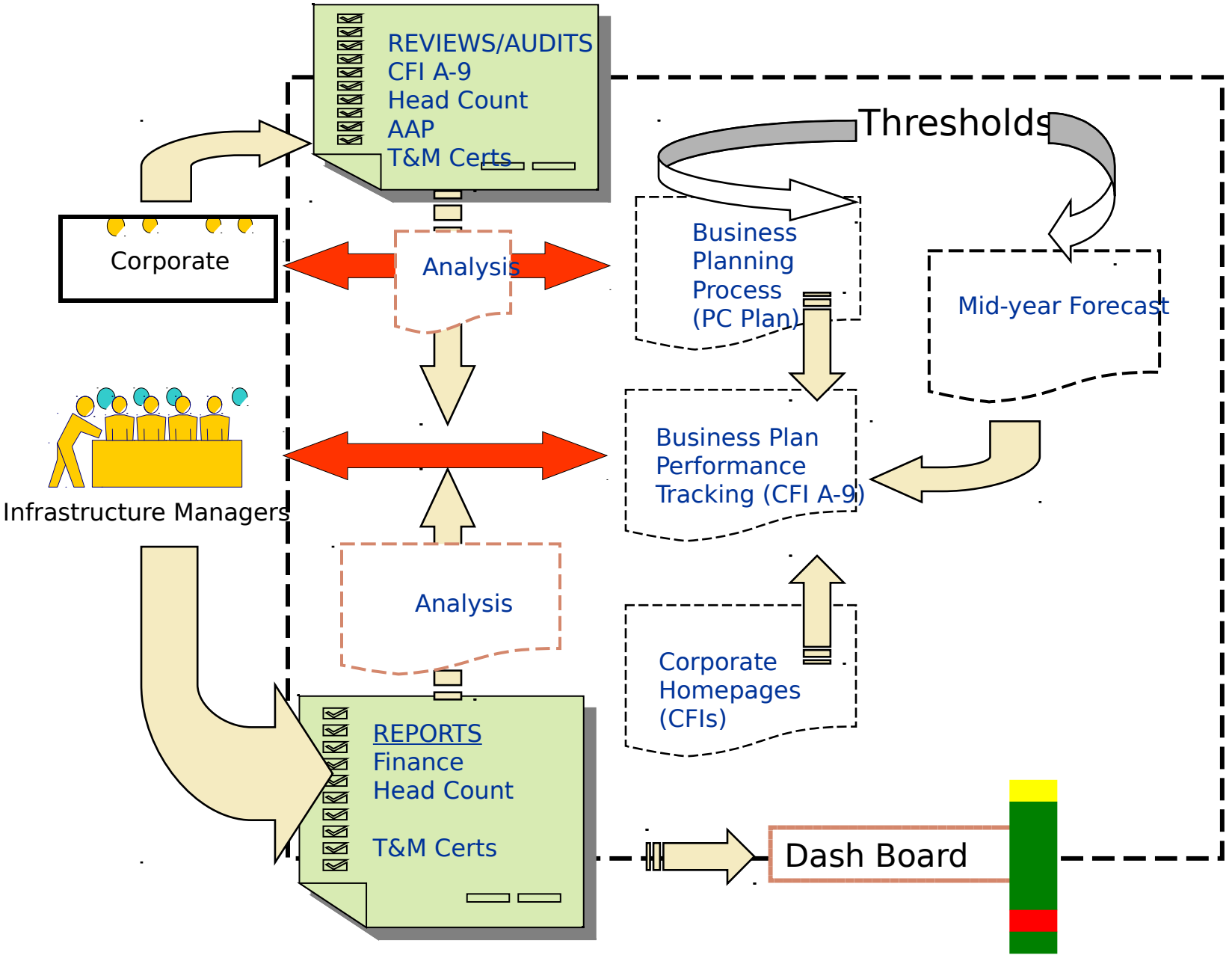
Implementation Tips	CMMI PAs
1. Projectize infrastructure functions. Collect, analyze and manage requirements.	PP, PMC, IPM, PPQA, CM, RD, REQM
2. Develop/implement measurements.	M&A
3. Develop/integrate risk management.	RSKM
4. Appraise infrastructure or enterprise	OPF

1. Implementing Project Planning (PP) and Monitori Control (PMC), Integrated Management (IPM) Process Areas

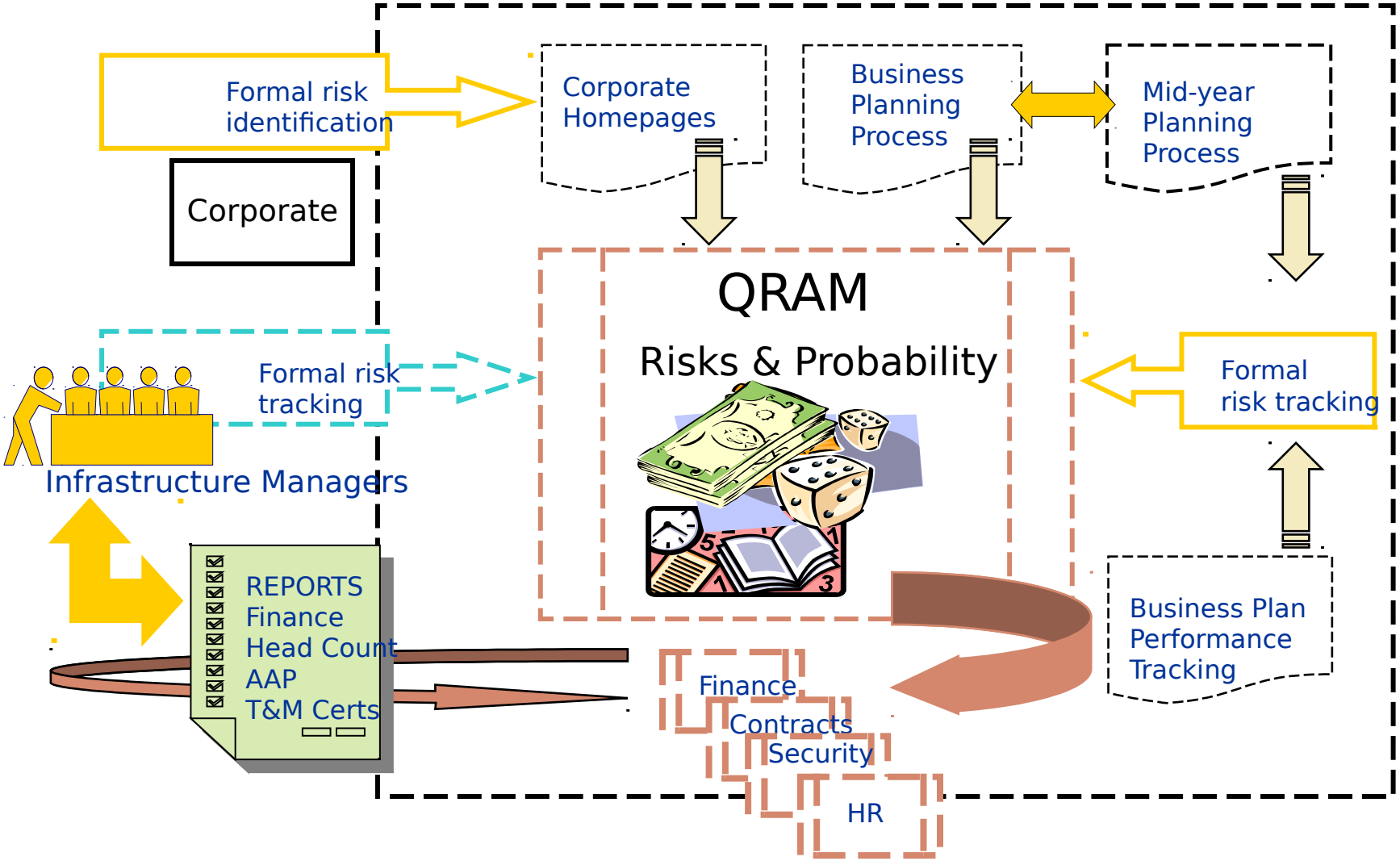


Stop Light Report provides a "health check" by integrating the results of all the functional area audits and reviews

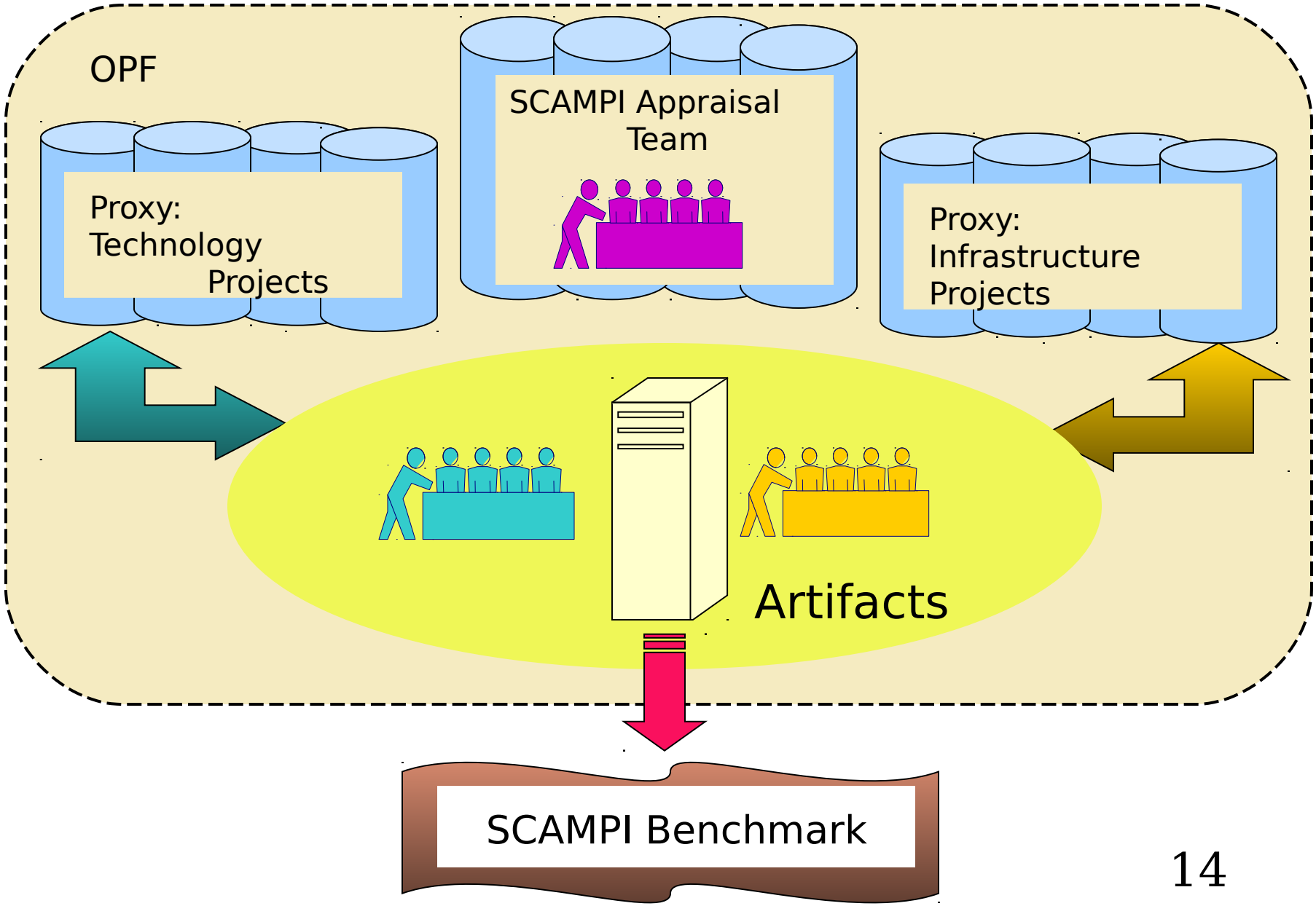
2. Implementing Measurement & Analysis (M&A) PA.



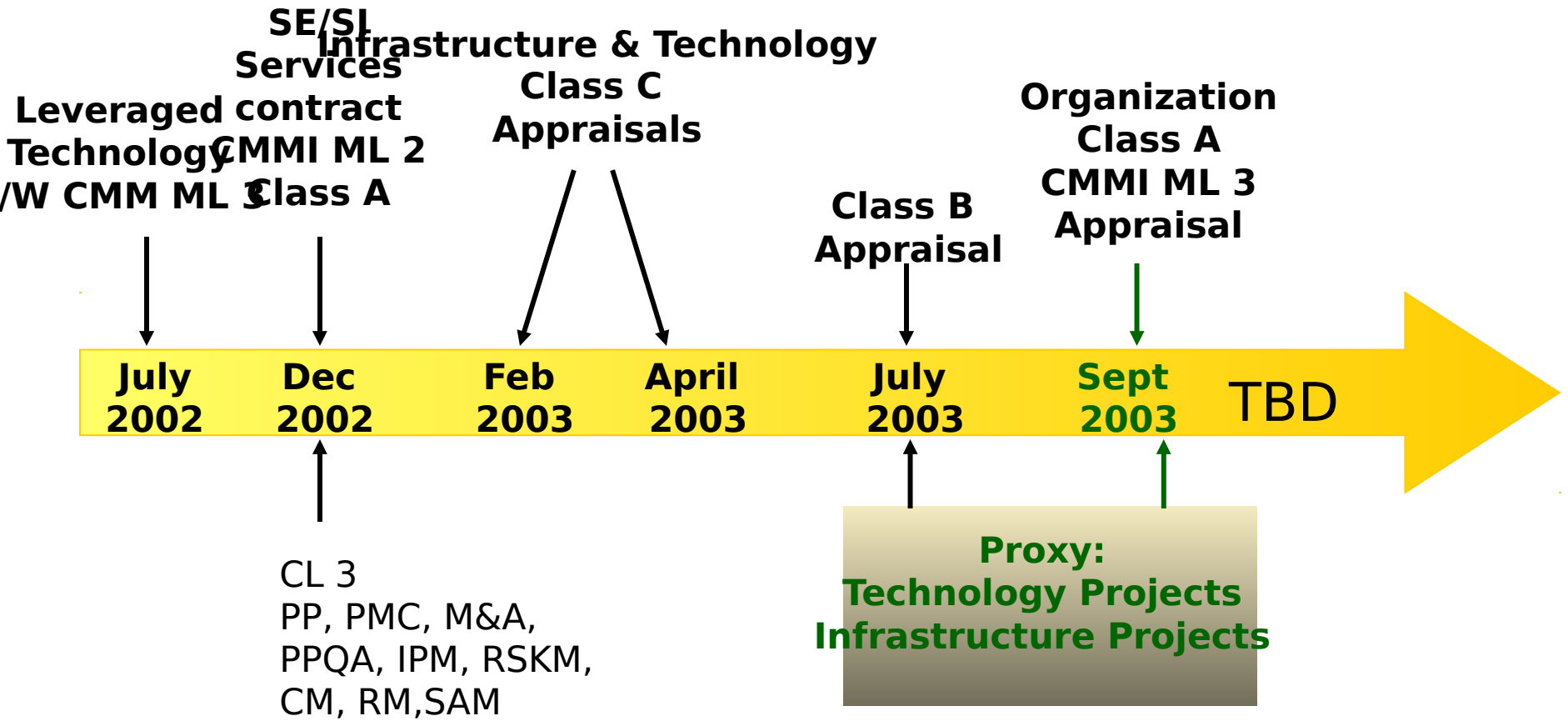
3. Implementing the Risk Management (RSKM) Process A



4. Implementing Organizational Process Focus (OPF) Process Area.



Progress To-Date



Summary

- Infrastructure support services and technology projects are BOTH necessary components of life cycle costs to predict and control.

- Infrastructure support services are permanent residents while a specific technology program is transient.

- Implementing CMMI model practices across the organization provides a common framework to preserve and build upon process improvement equity.

- The SCAMPI appraisal method provides a common method to measure the Enterprise’s progress in meeting process improvement goals.